Component of Statistics Canada Catalogue no. 75-001-X
Perspectives on Labour and Income

Article

Delayed retirement: A new trend?

by Yves Carrière and Diane Galarneau

October 26, 2011

Statistics Canada Statistique Canada

Canada

PERSPECTIVES
ON LABOUR AND INCOME

Standard symbols for Statistics Canada

The following standard symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0^s	value rounded to 0 (zero) where a meaningful distinction exists between true zero and the value rounded
p	preliminary
r	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
E	use with caution
F	too unreliable to be published

Highlights

In this issue

Delayed retirement: A new trend?

- The employment rate of individuals 55 or over has grown noticeably in recent years. From 1997 to 2010, it rose from 30.5% to 39.4% for men and from 15.8% to 28.6% for women.
- This strong growth seems at odds with the stability of the average retirement age since 2004. The apparent contradiction is in part the result of the influence of the age structure of workers on the average retirement age, making the average retirement age a poor indicator of recent changes in retirement behaviour.
- A more representative indicator of the retirement decisions of Canadians can be constructed on the basis of methods used to calculate life expectancy.
- This expected working-life indicator shows a significant increase in delayed retirement starting in the mid-1990s. In 2008, a 50-year-old Canadian could expect to be working for 16 years, compared to 14 years in 1977.
- The recent trend to delayed retirement also stabilized the expected length of retirement. The working-life tables show that the expected length of retirement increased from 1977 to the mid-1990s and has since remained relatively stable. The expected length of retirement expressed as a percentage of total life expectancy starting at age 50 was about the same in 2008 as in 1977.

Delayed retirement: A new trend?

Yves Carrière and Diane Galarneau

The authors wish to thank Angèle Larivière, who worked as a summer student at Human Resources and Skills Development Canada in 2008, for helping develop the working-life tables.

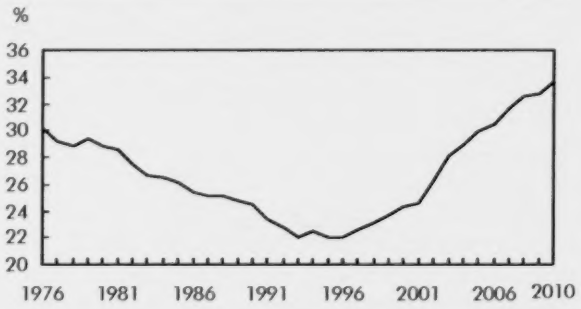
In recent years, Canada's aging population and the retirement of baby boomers has attracted a great deal of attention. Although the aging of the boomer generation is inevitable, certain incentives for older workers to continue working are frequently being considered to reduce the economic impact of aging (Burniaux et al. 2004; Expert Panel on Older Workers 2008; Denton and Spencer 2009; Hering and Klassen 2010; Hicks 2011). As life expectancy and years of good health increase, these measures may help strike a better balance between increased longevity and length of retirement (Castonguay and Laberge 2010). As well, they may make it easier to transfer knowledge and human capital, ease the transition to retirement and help workers who are financially unprepared (Mintz 2009).[1]

On the other hand, change may already be under way. While there was a marked trend toward early retirement in the 1980s and early 1990s prompted by high public-sector deficits and downsizing of private-sector organizations (Wannell 2007), the tide appears to have turned since the late 1990s. In 1997, the downward trend in the employment rate of individuals age 55 and over reversed—their employment rate has since increased by 12 percentage points to 34%—higher than in 1976 (Chart A).

The upward trend in the employment rate of those 55 and over could continue given that boomers are more highly educated, the coverage rate of defined-benefit pension plans is on a downward trend, and the expected tightening of the labour market due to incoming smaller cohorts (Gougeon 2009; Expert Panel on Older Workers 2008). In addition, work is becoming less physically demanding due to technological advances (Beach 2008). The trend may also have been amplified by the recent recession and financial crisis as well as the debt load of workers nearing retirement (Draut and McGhee 2004; Copeland 2009; RBC 2011; Marshall 2011). These factors may already have prompted a number of workers to postpone their retirement (Sun Life Financial 2011).

Using data from the Labour Force Survey (LFS), this article examines changes between 1976 and 2010 in indicators that measure aging of the workforce

Chart A Employment rate trend for people 55 and over reversed in the mid-1990s



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

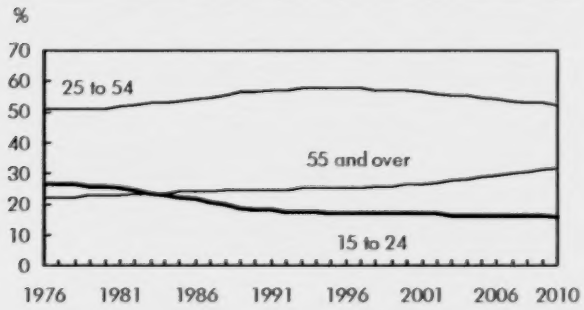
Diane Galarneau is with the Labour Statistics Division. She can be reached at 613-951-4626 or diane.galarneau@statcan.gc.ca. Yves Carrière is with the Social Policy Research Division at Human Resources and Skills Development Canada. He can be reached at 819-953-0052 or yves.carriere@hrsdc-rhdcc.gc.ca.

and delayed retirement. This article also attempts to reconcile two apparently contradictory trends: the increasing employment rate of individuals 55 and over and the relatively stable average retirement age in recent years (CANSIM Table 282-0051). The following questions will then be examined using working-life tables: How has the expected working life at age 50 changed in the last three decades? Is expected working life after age 50 increasing, as suggested by the recent increase in the employment rate? If it is in fact increasing, when did the trend change direction? Are the expected years in retirement a larger portion of life after 50 now than in the late 1970s? Lastly, the article looks at changes in the normal hours of work of individuals 55 and over during the period in which their employment rate showed strong growth. Since older workers tend to reduce their hours of work, could such a decrease offset the positive impact on the longer expected working life?

Aging has changed the age composition of the population

Population changes in recent decades have changed the age structure of the population age 15 and over (Chart B). The percentage of individuals 55 and over increased from 22% to 32%. A large part of that growth has occurred since the early 2000s, as the boomer generation entered the 55-and-over age group.

Chart B Percentage of the population 55 and over rose rapidly from the early 2000s



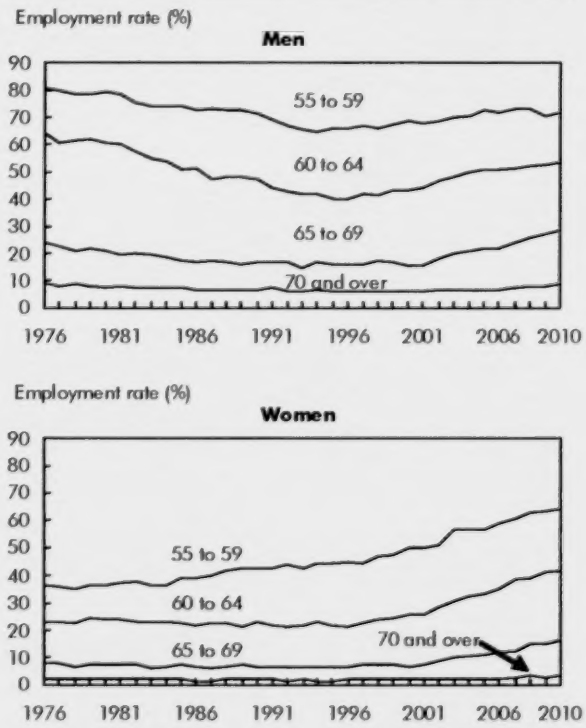
Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

At the same time, the percentage of 15- to 24-year-olds dropped significantly from 27% to approximately 16%. The percentage of 25- to 54-year-olds increased rapidly in the 1970s and early 1980s, levelled off and began to decrease in the second half of the 2000s.

Noticeable increase in the employment rate of older Canadians

The change in the population's age composition coincided with major social and labour market upheavals in Canada. The most prominent change in that period was an increase in the employment rate of women age 15 or over, from 41.9% in 1976 to 57.9% in 2010. In contrast, the employment rate of men age 15 or over fell by more than 7 percentage points in the same period.

Chart C Employment rate trend reversed for men, continued increase for women



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

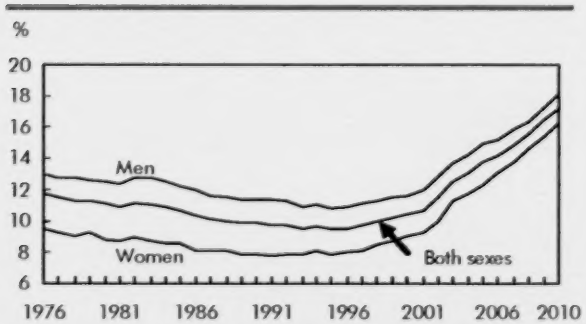
Particularly noteworthy are increases in the employment rate in recent years of both men and women 55 and over (Chart C). For men, this is a reversal of a previous trend in which the employment rate of those 55 and over dropped from 45.4% to 29.8% from 1976 to 1996. By 2010, it had risen to 39.4%. Men age 65 to 69 showed the most pronounced change, as their employment rate almost doubled between 2000 and 2010. The employment rate of men 60 to 64 also increased significantly.

For women, the upward trend in the employment rate began in earnest in 1996. Before then, the employment rate was relatively stable, with only the 55-to-59 age group rising slowly but steadily. After 1996, the employment rate of 55-to-59 year-olds increased to 64.1% in 2010, while the employment rate of women 60 to 64 almost doubled, from 21.5% to 41.4%. The employment rate of women age 65 to 69 increased at the fastest pace, from 6.9% in 2000 to 16.6% in 2010. These increases narrowed the employment-rate gap between men and women from 28.5 percentage points in 1976 to 10.8 in 2010.

An aging workforce

The increased participation of older age groups and the relative decrease in younger workers are two factors contributing to the aging workforce. The percentage of workers 55 and over declined slowly until the mid-1990s and then rose sharply in the early 2000s. In 2010, more than 1 in 6 workers was 55 or over (Chart D).

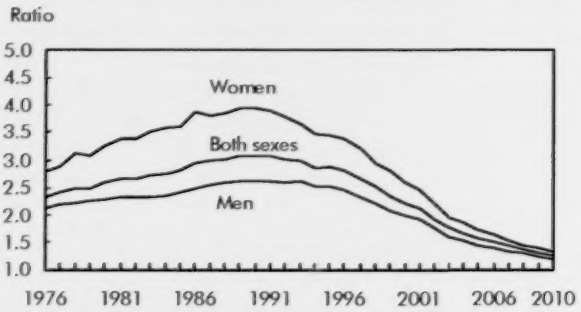
Chart D After a slow decline, the percentage of workers 55 and over rose



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

The aging workforce has also changed the potential capacity to replace older workers. In 1976, there were 2.3 younger workers age 25 to 34 for each worker 55 or over. In 1991, the ratio peaked at 3.1. The ratio then fell to 1.3 in 2010 (Chart E).

Chart E After peaking in 1991, the entrant–retiree ratio dropped



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

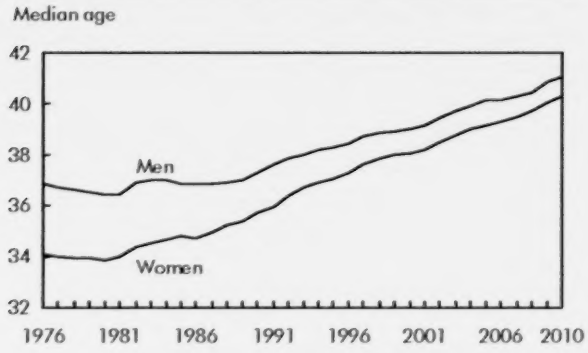
For most of the period studied, the entrant–retiree ratio of women was higher than that of men, reflecting their younger age—the median age of employed women in 1976 was almost 3 years younger than that of employed men (Chart F)—and the increasing employment rate of younger women, which helped lower their average age. As a result, the entrant–retiree ratio rose from 2.8 in 1976 to 3.9 in 1991.

The median age of women gradually caught up to that of men, so that the gap between them closed to approximately 1 year in the 2000s. Over time, the participation of women in the labour market became similar to that of men, resulting in a comparable entrant–retiree ratio of 1.3 in 2010.

Indicators of a lengthening working life

The concept of retirement age is not easily measured, despite widespread interest in the concept (Bowlby 2007; Denton and Spencer 2008—see *Data source, method and definitions*). However, some indicators seem to point to a lengthening working life in recent years. Given the potential effects of a longer working life on

Chart F Median age of employed women has almost reached that of men



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

economic growth (Expert Panel on Older Workers 2008; Denton and Spencer 2009), it is important to understand the recent trends.

First, the annual full-time employment rate was reproduced by age at three points in time: 1976, 1997 (the major turning point in retirement behaviour) and 2010 (Chart G). The full-time employment rate was chosen to approximate the concept of 'career job,' that is, the job held after graduation and before retirement.

A rightward shift can be seen in the employment rate by year of age when comparing 1976 to 1997 and 2010, such that younger workers are starting full-time work later in life. In 1976, the full-time employment rate reached the level of the older groups at about age 25. In 2010, that level was reached at age 29 mainly due to increased years of education.

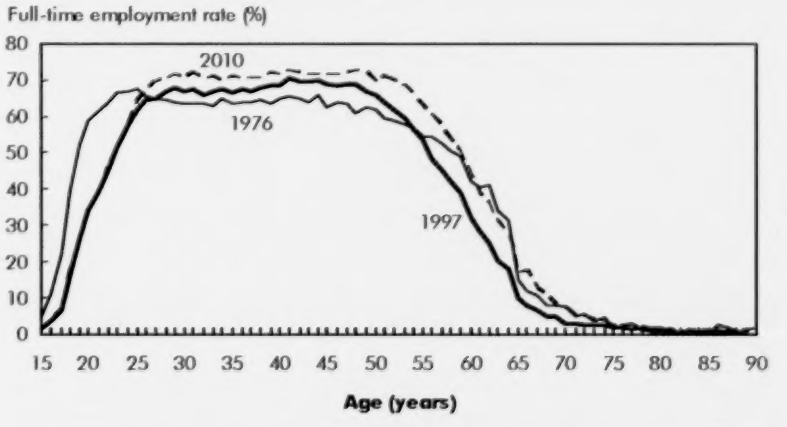
Moreover, the employment rate increased between 1976 and 1997 for each year of age from 27 to 54. That period coincides with the increasing participation of women in the labour market, which boosted the overall employment rate. The increase continued through 2010, the employment rates of those age groups being higher than in 1997 and 1976.

For those 55 years and over, the employment rate increased between 1997 and 2010, with the employment rate for each year of age over 55 exceeding the 1997 rate. The 2010 rates also exceed the 1976 rates up to age 60, and from this age and up the 2010 and 1976 rates are similar.

Both men and women are entering full-time employment later in life (Chart H). In the over-55 age group, the employment rate of men fell between 1976 and 1997, but that of women rose during and beyond that period. In addition, the 2010 rebound in the employment rate of those 55 and over is primarily the result of the sharp increase in the full-time employment rate of women. Men contributed to the rebound to a lesser extent.

The increase starting in the mid-1990s in the employment rate of men 55 to 69 may indicate delayed retirement. The increase in the employment rate of women is likely the result of two trends: delayed retirement and the arrival of cohorts with higher employment rates.

Chart G Younger workers entering full-time work later in life, employment rates rebounding among older workers



Source: Statistics Canada, Labour Force Survey, 1976, 1997 and 2010.

Data source, method and definitions

Data source

This article is based on data from the Labour Force Survey (LFS), which has a sample size of 54,000 households each month. The LFS provides information on major labour market trends by industry, occupation, hours worked, employment rate and unemployment rate. In this article, the population being studied is that of older workers—those age 55 and over. However, the working-life tables are based on the population age 50 to 80, since this is the age group covering most retirements. Since data for the Northwest Territories, Yukon and Nunavut are not included, the findings of this study apply only to the 10 provinces.

Retirements

The LFS allows the number of retirements in a month or year to be calculated, since "retired" is one response to the question about the reason for stopping work, which is asked if the respondent is not working at the time of the survey, but has worked in the preceding 12 months.[2] Retirements are recorded only for those age 50 and over.

Retirements identified using the LFS are not necessarily full retirements, first retirements or career job retirements. The LFS records retirement as reported and perceived by the respondent at the time of the survey. Since the concept of retirement has changed since the survey began, the concept captured by the LFS has also changed. Compared with retirements recorded during the 1970s and 1980s, retirements recorded today are less likely to be full retirements, since the paths to retirement have become more varied (Schellenberg et al. 2005). As a cross-sectional survey, the LFS cannot identify the multiple states between first retirement and full retirement.

The method used to obtain the number of retirements is not the same as the one used in Gower (1997). The retirement file used therein considered only the retirements for 1 out of 6 months for each rotation group. In this article, responses from all rotation groups are considered. However, retirements in the first and last months of data collection for each year of retirement have been excluded. The number of retirements for the first month of collection (for example, January 2010 for retirements in January 2010) is consistently lower, since respondents have only two weeks to report their retirement. The last month of data collection (for example, November 2010 for retirements in January 2010) is also excluded, due to a processing adjustment introduced in November 1995. Excluding the last month of data collection ensures that the data are processed in the same way for all selected months.

In this article, data are presented by year of retirement and not by year of data collection. Each year of retirement data requires 21 months of collection. For example, to obtain all the retirements in 2009, the LFS data from February 2009 to October 2010 must be used. Therefore data on retirements in 2010 are not shown because collection is not yet complete.

Method

Expected working-life calculation

Expected working life can be calculated using LFS data with a method similar to the one used for calculating life expectancy (Bélanger and Larrivée 1992; Denton et al. 2009). First, the number of retirements for each year of age from 50 to 80 is calculated using the LFS retirement variable. The retirement rate is then determined by dividing the number of retirements by the annual average number of employed individuals for each year of age plus one-half of the retirements at the same age (assuming that retirements are distributed evenly throughout the year). To a hypothetical cohort of employed 50-year-olds in a given year (say, 1976), that year's retirement rates for each subsequent year of age are applied, as if the cohort were aging and shrinking as a result of retirements. That makes it possible to determine the number of years that a person would spend working and in retirement if, beginning at age 50, the retirement rates were the same as in 1976.

Expected working life has been calculated as described above for each year from 1976 to 2009. Since retirement occurs relatively infrequently, three-year moving averages have been used to calculate retirement rates. Thus the tables go from 1977 to 2008.

Since life expectancy has continued to increase, expected working life takes both changes in behaviour regarding retirement and declining probabilities of death into account (Canadian Human Mortality Database, Université de Montréal 2010). It must therefore be assumed that mortality is the same for the employed and the general population. The method can show how expected working life starting at age 50 has changed as a percentage of the remaining years of life. The tables stop at age 80 since there are few employed people over 80.

In this article, only employment exits for retirement (Table 1) are considered, even though other types of exits (for example, layoff, caregiving or illness) may lead to retirement. If all exits had been included, the number

Table 1 Distribution of individuals age 50 and over who left a job in the 12 months preceding the LFS reference week by reason, selected years[1]

	1976	1980	1989	1999	2007	2009
Reason				%		
Illness or disability	14	13	11	8	10	7
Personal or family responsibilities	7	4	3	2	2	2
Laid off	35	40	43	45	46	55
Retired	28	28	31	35	33	27
Other	15	15	12	10	9	8

1. With the exception of 2009, the preceding years are comparable in the business cycle.
Source: Statistics Canada, Labour Force Survey (LFS), 1976, 1980, 1989, 1999, 2007 and 2009.

Data source, method and definitions (concluded)

of employed individuals in the hypothetical cohort would have declined more quickly in each year, but the findings would have been the same. The study by Denton et al. shows similar trends using a very broad definition of retirement, wherein retirement rates correspond to the drop in the participation rate between two ages.

The distribution of reasons for job exits for those over 50 changed over time. For example, the proportion of exits due to layoffs increased between 1976 and 2009, while personal and family reasons decreased. Retirements increased until the late 1990s, but have dropped in recent years.

One advantage of the expected working-life tables is that they make it possible to identify trends of older workers approaching retirement that are not affected by the age structure of the 50-and-over age group. Given that the first of the baby boomers entered the 50-and-over age group in the mid-1990s, certain changes among older workers may be primarily the result of the age of the group dropping due to the significant influx of the baby boomers.

Definitions

Older worker: In this article, a worker who is 55 or over.

Entrant-retiree ratio: There are several ways to calculate this type of ratio, and they all result in very similar trends. In this article, the number of workers age 25 to 34 is divided by the number of workers age 55 and over. The 25-to-34 age group was chosen instead of the 15-to-24 age group to avoid including students in the indicator.

Retiree: A person age 50 or over who has worked in the preceding 12 months, but is not working at the time of the survey as result of retirement.

Expected working life: In this article, 'expected working life' is used instead of 'pre-retirement expected working life' for brevity. Both refer to the same concept, namely the number of years that an employed 50-year-old can expect to work before retiring or dying, should this occur before retirement.

Post-retirement life expectancy: The number of years one can expect to live after retiring from a job.

An analysis of employment-rate changes alone is not enough to determine whether retirement is being postponed, especially among women. Therefore, another indicator will be examined: the average retirement age.

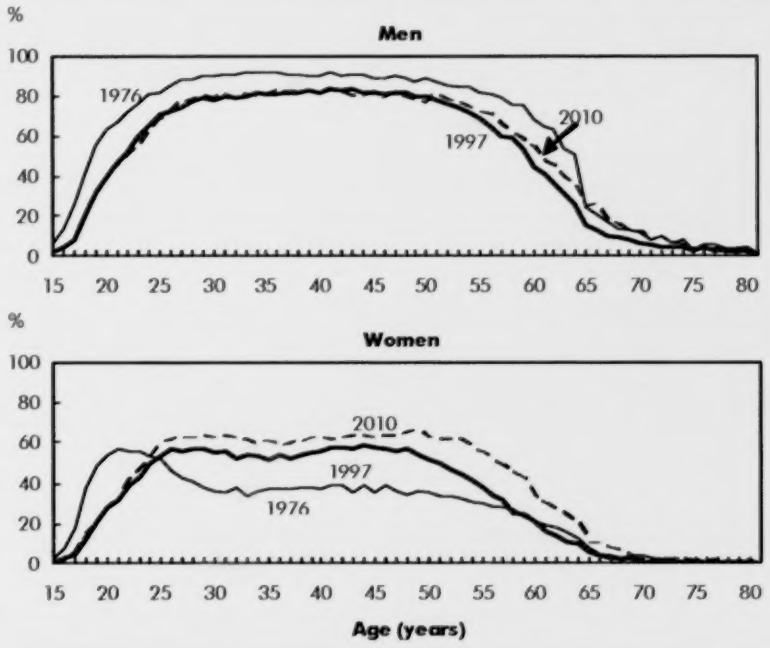
Interpretation issues with the average retirement age

The average retirement age is often used to study changes in retirement behaviour. The average retirement age rose somewhat after bottoming out in the mid-1990s (Chart I); however, since 2004 it has remained relatively stable at around 62, which is surprising because the employment rate of those 55 and over has been rising significantly for a number of years.

Whether average retirement age is calculated from the LFS or another source, it must be interpreted with caution for the following reasons:

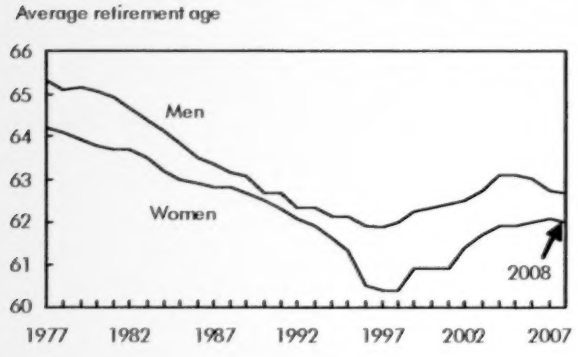
- It is influenced by the age structure of the 50-and-over age group.

Chart H For men under 65, the full-time employment rate has remained lower than in 1976, for women, it has increased continuously starting at age 24 since 1976



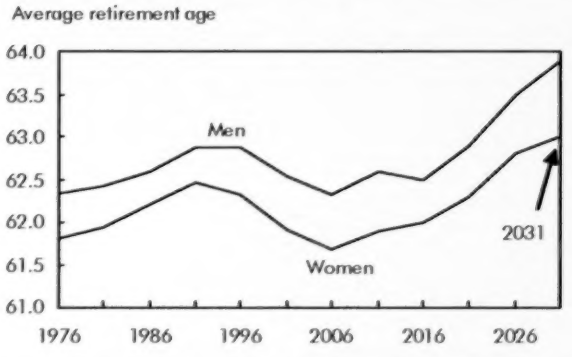
Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

Chart I Average retirement age stable since 2004



Source: Statistics Canada, Labour Force Survey, 1977 to 2009.

Chart J Demographic effect on average retirement age



Source: Statistics Canada, Labour Force Survey, 1976 to 2009.

- It is more sensitive to early retirements than delayed retirements.
- It is not necessarily representative of the behaviour of all workers approaching retirement.

The influence of the age structure of the 50-and-over age group may result in a lower average retirement age if most of the employed people in that age group are 50 to 59, or a higher average retirement age if most of those people are 60 to 69. Therefore, the gradual entry of the sizeable boomer generation into the 50-and-over age group may have a large impact on the average retirement age.

To illustrate this effect, the average retirement age from 1976 to 2031 was calculated using 2008 annual employment and retirement rates. Only the age structure was allowed to vary. In that way, the impact of age structure changes on the average retirement age between now and 2031 could be isolated (Chart J).

In the mid-1990s, the first of the baby boomers turned 50, making the 50-and-over age group younger overall (the percentage of 60- to 69-year-old men and women dropped between 1990 and 2000), bringing down the average retirement age (by 0.5 years for men and 0.6 years for women) and partially offsetting the potential increase in the average retirement age, as a result of the numerous young retirees from the boomer generation.

Simlarly, the gradual entry of the boomers into the 60-to-69 age group between 2006 and 2026 will age the 50-and-over worker group, increasing the average retirement age by approximately 1.5 years. The trend is significant because it could suggest a lengthening of the working life of older workers with no change in retirement behaviour.

In addition to being influenced by the age structure, the average retirement age is more sensitive to early retirements than delayed retirements. For example, in the most extreme case that, in a given year, only one person retired and all other employed individuals postponed their retirements, the average retirement age would be the age of that single retiree. The average retirement age would eventually reflect the late retirements, but not until a number of years after the changes in retirement behaviour of the employed individuals had occurred.

In the above example, the average retirement age for that year would not account for the numerous individuals who postponed their retirement and would be representative of the behaviour of only one individual.

For these reasons, the average retirement age does not reliably reflect changes in retirement behaviour. This partly explains why, for several years, the average retirement age has not increased significantly, even though the employment rate of Canadians 55 and over

has risen sharply. The expected working life tables make it possible to measure changes in retirement behaviour more accurately.

Expected working life[3] has increased by approximately three years since 1997

While retirement age is hard to measure, it is possible to construct expected working-life tables from LFS data using a method similar to that for calculating life expectancy (Bélanger and Larrivée 1992; Denton et al. 2009; Wannell 2007—see Data *source, method and definitions*). Despite certain limitations, changes in expected working life reflect changes in retirement behaviour much more accurately than average retirement age.

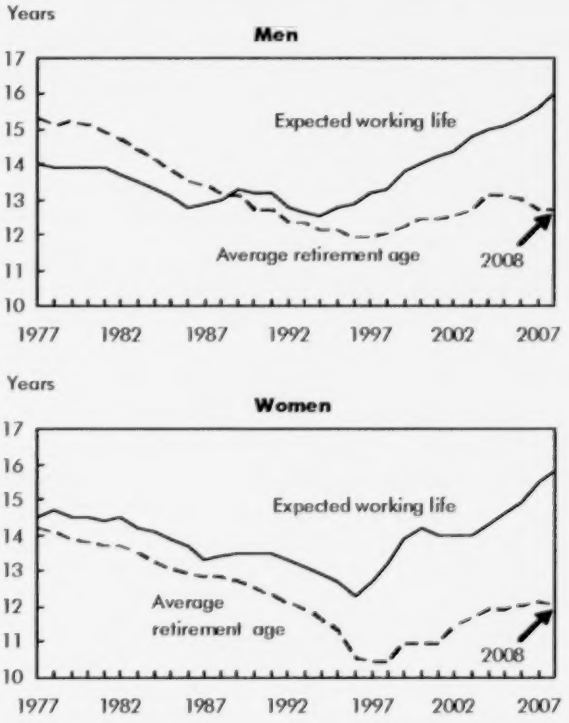
Expected working life makes it possible to estimate the number of years that a person can expect to work before retiring.[4]

The average number of years a 50-year-old can expect to continue working was compared (using expected working-life tables) with a similar number derived from the average retirement age[5] (Chart K). From 1976 to the mid-1990s, both numbers fell significantly for men and women. However, the number derived from the average retirement age fell almost twice as much.

As well, the increase that started in the mid-1990s is greater based on expected working life. For men, the increase starts in 1994 and totals 3.5 years. Using average retirement age, the increase starts in 1997 and totals only 0.8 years. For women, the increase from the mid-1990s totals 3.5 years using expected working life and 1.6 years using average retirement age.

The working-life tables therefore indicate a significant increase in delayed retirement starting in the mid-1990s, which is consistent with the increase in the employment rate of older Canadians starting in the same period. The expected years of employment is even greater in 2008 (16 years for men and women) than in 1977 (14 years for men and women). These estimates indicate that, in 2008, Canadians tended to retire later in life than in 1977. Specifically, employed 50-year-olds would have waited longer to retire at the 2008 retirement rates than at the 1977 retirement rates.[6]

Chart K Employed 50-year-old men likely to work for approximately 16 years before retiring, women almost as long



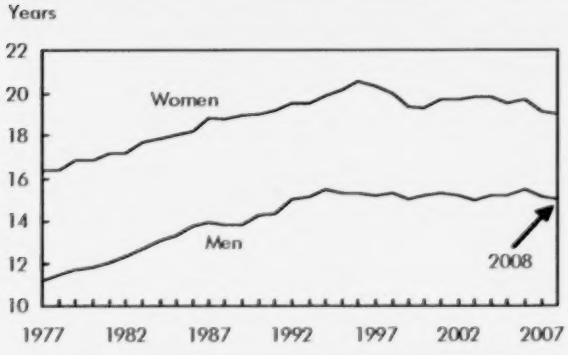
Source: Statistics Canada, Labour Force Survey, 1977 to 2008.

Fewer expected years in retirement?

Has the trend toward later retirement resulted in fewer expected years in retirement after age 50? This question is important given the impact on economic growth of an increase in the number of years spent in retirement as a result of increased longevity.

The working-life tables show that the expected length of retirement for men increased from 11.2 years to 15.4 years between 1977 and 1994 (Chart L).[7] It has since levelled off at approximately 15 years (in 2008).[8]

Chart L Length of retirement stable since the mid-1990s

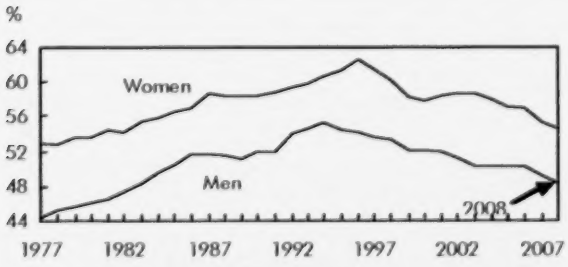


Source: Statistics Canada, Labour Force Survey, 1977 to 2008.

Although life expectancy has continued to increase since the mid-1990s, the proportion of expected years in retirement at age 50 has declined (Chart M). In 1994, slightly more than 55% of the remaining years of life after age 50 were expected to be spent in retirement; in 2008, the number fell to 48%, similar to the level in 1977 (45%).[9]

The trends for women are similar. From 1977 to 1996, the expected working-life tables show that the years in retirement for women increased from 16.4 to 20.6, and the years in retirement as a percentage of total life expectancy starting at age 50 increased from 53% to 63%. The years in retirement then fell to 19 years in 2008, or 55% of total life expectancy at age 50, which is comparable to the 1977 number.

Chart M Since the mid-1990s, decreasing proportion of total life expectancy spent in retirement starting at age 50



Source: Statistics Canada, Labour Force Survey, 1977 to 2008.

For both men and women, the expected working-life tables show that the expected length of retirement, in absolute terms, has stabilized after a sharp increase between 1977 and the mid-1990s. That relative stability, combined with an increase in life expectancy at age 50, has increased the percentage of years spent working after age 50 over the last 15 years or so. Since the trend to delayed retirement was well-established before the recent financial crisis and economic downturn, it cannot be viewed as a direct consequence of these events.

Decreased hours of work for men 50 and over

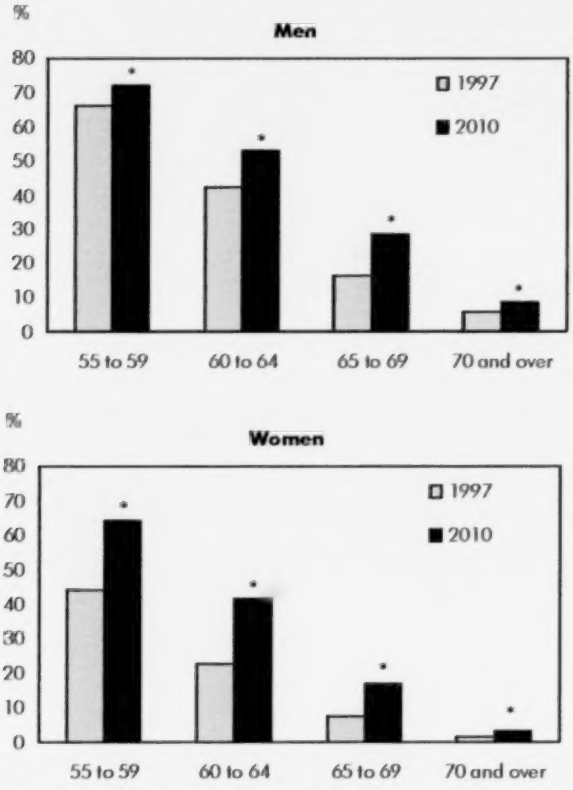
The longer working life of older workers may offset some of the economic impacts of aging. However, hours of work must be considered, since the number of hours worked generally declines with age. In the absence of a productivity increase, the full effect of longer working life on economic growth could be offset by shorter hours of work for older workers.

As the employment rate of men 55 and over increased, their regular hours of work decreased (charts N and O). In 1997, men 55 and over worked an average of 40.1 hours per week, compared to 38.6 hours per week in 2010.[10] The decrease occurred mainly in the 55-to-64 age group, with no significant decrease in older groups. The decrease affected mostly full-time workers, who worked an average of 1.4 fewer hours per week, while part-time workers added 0.6 hours per week.

Despite the increased incidence of part-time work among men 55 and over (from 14.3% to 15.9% between 1997 and 2010), the employment growth was largely the result of an increase in full-time employment which represented 5 out of 6 new jobs.

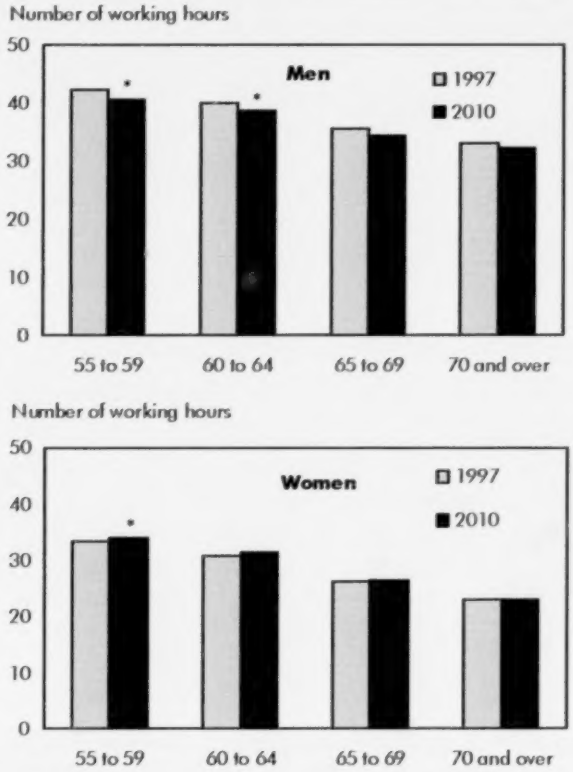
The employment rate increase (which is partly due to delaying retirement) has had a marked effect on total annual hours of work for older men, which have increased by 87% since 1997. If the employment rate had not risen, the hours would have increased by 51%.[11] Therefore the slight decrease in average weekly hours was not sufficient to offset a large portion of the increase in annual hours.

Chart N Growing employment rate of individuals 55 and over



* The differences between the 1997 and 2010 employment rates and average number of weekly working hours by age group are statistically significant at the 0.05 threshold.
Source: Statistics Canada, Labour Force Survey, 1997 and 2010.

Chart O Average number of working hours getting shorter for men but longer for women



* The differences between the 1997 and 2010 employment rates and average weekly working hours by age group are statistically significant at the 0.05 threshold.
Source: Statistics Canada, Labour Force Survey, 1997 and 2010.

The shortening of the average work week for men is mainly the result of a change in the composition of the male labour force. Specifically, the transition of older workers from primary and manufacturing industries, which traditionally entail relatively long hours of work, to business, construction, and professional, scientific and technical services, which have relatively shorter hours of work, is a key reason for the decrease in hours (accounting for between 37% and 44% of the change).[12]

Increased average hours of work for women

In addition to increased employment, the average work week lengthened slightly for women, from 31.4 hours in 1997 to 31.9 hours in 2010. Unlike men, the positive effect of women's increased employment is amplified by the longer average work week. The number of female workers 55 and over grew by 160% between 1997 and 2010. Assuming that their 2010 average work week was maintained throughout the

year, women's average annual hours increased slightly more (164%) than the number of women. If the employment rate and average work week had remained at 1997 levels, the increase in annual hours would only have been 44%.

Women's increased hours of work are the result of an increased rate of full-time work despite a shortening of the work week of full-time workers from 40.2 hours to 38.8 hours. In contrast, the work week of women in part-time jobs increased from 15.7 hours to 17.0 hours.

Among women 55 and over, the distribution by occupation and industry remained relatively stable between 1997 and 2010, such that this factor did not significantly contribute to the increase in their average hours of work.

Conclusion

Baby boomers have played a large part in changes to the Canadian labour market over the last 30 years and their impact will likely continue to be felt for years to come. The aging of the boomer generation and its transition to retirement will have a major impact on the labour market and the overall economy.

In fact, some of the changes are well under way. Since the early 1980s, workers 55 and over have represented an increasingly large part of the total population while the potential capacity to replace older workers has been decreasing. In 1991, the ratio of young worker (25 to 34) to those nearing retirement (55 and over) was 3.1; in 2010, it was 1.3.

An important trend in recent years for both men and women has been the growth in the employment rate of people 55 and over. This growth could mitigate certain anticipated effects of population aging. For men, the growth represents a reversal of a previous trend, since their employment rate was falling between 1976 and 1997. For women, the growth is the continuation of a trend. From 1997 to 2010, the employment rate of men 55 and over grew from 30.5% to 39.4%, and that of women grew from 15.8% to 28.6%.

This strong growth seems at odds with the stability of the average retirement age since 2004. The average retirement age has remained at approximately 62 for close to 7 years. As an indicator, it has a number of limitations and may misrepresent retirement trends. In order to address these shortcomings, the expected working life was calculated using a method similar to that used for calculating life expectancy.

This approach makes it possible to calculate the number of years a 50-year-old Canadian can expect to work before retiring if he or she were subject to the retirement rates for a given year as they aged.

The working-life tables indicate a significant increase in delayed retirement starting in the mid-1990s. Expected working life was even higher in 2008 than in 1977. It was about 14 years for men and women in 1977, compared to 16 years in 2008.

The recent trend to delayed retirement also stabilized the expected length of retirement. The working-life tables show that the expected length of retirement increased from 1977 to the mid-1990s and has since remained relatively stable. The expected length of retirement expressed as a percentage of total life expectancy after age 50 was about the same in 2008 as in 1977.

Although the 2008 financial crisis and economic slowdown may have prompted some workers to postpone their retirement, delayed retirement is far from being a new trend. The results show that the trend began in the mid-1990s, well before these events.

Delayed retirement could alleviate some of the economic challenges of population aging. However, hours of work must be considered, since a drop in average weekly hours could partly offset the impact of an increased expected work life on annual hours and economic growth. In fact, the average work week for those 55 and over in 2010 was indeed 1 hour shorter than in 1997.

Despite this drop, annual working hours for those 55 and over increased by 87% since 1997. If the employment rate had remained at its 1997 level, the increase would have been 48%. Therefore delayed retirement, measured by the working-life tables, has had a large positive impact on total annual hours despite the decrease in average weekly hours.

Perspectives

Notes

1. Mintz (2009) states that 1 in 5 Canadians fails to accumulate enough savings to replace 90% or more of his/her pre-retirement expenses. The proportion is even greater for low- and average-income earners.

2. Only starting in 1997 was this question asked of people who had been temporarily laid off.

3. Here, and elsewhere in the text, 'expected working life' is used instead of 'pre-retirement expected working life' for readability. In theory, working life can end for reasons other than retirement. However, this article considers only termination of employment after age 50 as a result of retirement or death.

4. Like the life-expectancy calculation, which gives an idea of the number of years a person has left to live if the mortality rate in a given year applies throughout that person's life, the expected working-life tables make it possible to calculate the number of years a 50-year-old Canadian can expect to work before retiring if the retirement rates in a given year prevail into the future.

5. For purposes of comparison, 50 was subtracted from the average retirement age and the number thus derived was compared to the expected working life at age 50.

6. This result is also partly attributable to the lower death rate.

7. This is a comparison between a 50-year-old Canadian under the 1977 retirement rate at each age and a 50-year-old Canadian under the 1994 retirement rate at each age.

8. Using the average retirement age, the expected length of retirement increased from 10 years to 18.3 years in the same period. Both indicators show a sizeable increase in the expected length of retirement after age 50, however, the increase is noticeably greater using the average retirement age because it has a number of limitations, as mentioned earlier.

9. Using the average retirement age, the increases went from 39% in 1977, to 57% in 1994 and to approximately 59% in 2008.

10. This comparison is between 1997 and 2010, and not 2008 or 2007. Even though, in 2010, a number of population groups had not completely recovered the losses incurred during the 2008 recession, those 55 and over were less affected by the slowdown, and in 2010 men and women in that age group had employment rates that were greater than those in 2008 (39.4% versus 38.6% for men and 28.6% versus 27.3% for women). The employment rates of those 55 and over were greater in 2010 than in 2007.

11. The number of workers 55 and over increased by 95% between 1997 and 2010. Assuming that men maintained the annual average of weekly hours worked in 2010, week by week, their average annual hours would have increased slightly less (87%) than the number of workers. The increase in overall annual hours is slightly less than the increase in the number of workers. The LFS does not include annual hours. To obtain annual hours, the annual average of the weekly hours worked was multiplied by 52.

12. This is the result of an Oaxaca decomposition. Demographic variables were used in the regressions (age, age squared, education, province of residence, whether the person resided in a CMA, and marital status) as well as labour market variables (industry, occupation, length of employment, company size, unionization, whether the person was a part-time or full-time employee, and hourly wage).

References

Beach, Charles M. 2008. "Canada's Aging Workforce: Participation, Productivity, and Living Standards." *A Festschrift in Honour of David Dodge*. November. Bank of Canada. p. 197-218. http://www.bankofcanada.ca/wp-content/uploads/2010/09/beach.pdf (accessed October 18, 2011).

Bélanger, A. and D. Larrivée. 1992. "New approach for constructing Canadian working life tables, 1986–1987." *Statistical Journal of the United Nations Economic Commission for Europe*. Vol. 9. p. 27-49.

Bowlby, Geoff. 2007. "Defining retirement." *Perspectives on Labour and Income*. Vol. 8, no. 2. February. Statistics Canada Catalogue no. 75-001-XIE. p. 15-19. http://www.statcan.gc.ca/pub/75-001-x/10207/9584-eng.pdf (accessed October 18, 2011).

Burniaux, Jean-Marc, Romain Duval and Florence Jaumotte. 2004. *Coping with Ageing: A Dynamic Approach to Quantify the Impact of Alternative Policy Options on Future Labour Supply in OECD Countries*. OECD Economics Department Working Papers, No. 371. Paris. Organisation for Economic Co-operation and Development. OECD Publishing. 92 p. http://www.oecd-ilibrary.org/docserver/download/fulltext5lgsjhvj7wq6.pdf?expires=1319127535&id=id&accname=guest&checksum=978AD3D9029EDDD1864AE27E702D4C19 (accessed October 19, 2011).

Castonguay, Claude and Mathieu Laberge. 2010. *La longévité : une richesse*. Centre interuniversitaire de recherche en analyse des organisations (CIRANO). Montréal. 113 p. http://www.cirano.qc.ca/pdf/publication/2010RP-01.pdf (accessed October 19, 2011).

Copeland, Craig. 2009. "Debt of the elderly and near elderly, 1992–2007." *EBRI Notes*. Vol. 30, no. 10. October. Washington, D.C. Employee Benefit Research Institute. p. 2-14. http://www.ebri.org/pdf/notespdf/EBRI_Notes_10-Oct09.DebtEldly.pdf (accessed October 19, 2011).

Denton, Frank T. and Byron G. Spencer. 2009. *Population Aging, Older Workers, and Canada's Labour Force*. SEDAP Research Paper No. 256. Social and Economic

Dimensions of an Aging Population. Hamilton. McMaster University. 29 p. http://socserv.mcmaster.ca/sedap/p/sedap256.pdf (accessed October 19, 2011).

Denton, Frank T., Christine H. Feaver and Byron G. Spencer. 2009. *Cohort Working Life Tables for Older Canadians.* SEDAP Research Paper No. 247. Social and Economic Dimensions of an Aging Population. Hamilton. McMaster University. 69 p. http://socserv.mcmaster.ca/sedap/p/sedap247.pdf (accessed October 19, 2011).

Denton, Frank T. and Byron G. Spencer. 2008. *What is Retirement? A Review and Assessment of Alternative Concepts and Measures.* SEDAP Research Paper No. 231. Social and Economic Dimensions of an Aging Population. Hamilton. McMaster University. 39 p. http://socserv.mcmaster.ca/sedap/p/sedap231.pdf (accessed October 19, 2011).

Draut, Tamara and Heather C. McGhee. 2004. *Retiring in the Red: The Growth of Debt Among Older Americans.* Briefing Paper. New York. Dēmos. 11 p. http://archive.demos.org/pubs/retiring_2ed.pdf (accessed October 19, 2011).

Expert Panel on Older Workers. 2008. *Supporting and Engaging Older Workers in the New Economy.* Ottawa. Human Resources and Skills Development Canada. 110 p. http://www.hrsdc.gc.ca/eng/publications_resources/lmp/eow/2008/older_workers_2008.pdf (accessed October 19, 2011).

Gougeon, Philippe. 2009. "Shifting pensions." *Perspectives on Labour and Income.* Vol. 10, no. 5. May. Statistics Canada Catalogue no. 75-001-X. p. 16-23. http://www.statcan.gc.ca/pub/75-001-x/2009105/pdf/10866-eng.pdf (accessed October 18, 2011).

Gower, Dave. 1997. "Measuring the age of retirement." *Perspectives on Labour and Income.* Vol. 9, no. 2. Summer. Statistics Canada Catalogue no. 75-001-XPE. p. 11-17. http://www.statcan.gc.ca/studies-etudes/75-001/archive/e-pdf/3071-eng.pdf (accessed October 18, 2011).

Hering, Martin and Thomas R. Klassen. 2010. *Is 70 the New 65? Raising the Eligibility Age in the Canada Pension Plan.* November. Toronto. School of Public Policy and Governance, University of Toronto. Mowat Centre for Policy Innovation. 20 p. http://www.mowatcentre.ca/pdfs/mowatResearch/28.pdf (accessed October 18, 2011).

Hicks, Peter. 2011. *The Surprisingly Large Policy Implications of Changing Retirement Durations.* SEDAP Research Paper No. 284. Social and Economic Dimensions of an Aging Population. Hamilton. McMaster University. 59 p. http://socserv.mcmaster.ca/sedap/p/sedap284.pdf (accessed October 19, 2011).

Marshall, Katherine. 2011. "Retiring with debt." *Perspectives on Labour and Income.* Vol. 23, no. 2. Summer. Statistics Canada Catalogue no. 75-001-X. p. 3-12. http://www.statcan.gc.ca/pub/75-001-x/2011002/pdf/11428-eng.pdf (accessed October 18, 2011).

Mintz, Jack M. 2009. *Summary Report on Retirement Income Adequacy Research.* Calgary. University of Calgary. 30 p. http://www.fin.gc.ca/activty/pubs/pension/pdf/riar-narr-BD-eng.pdf (accessed October 19, 2011).

RBC. 2011. *RBC Retirement Myths and Realities Poll.* Ipsos 11-000467-01. Toronto. Royal Bank of Canada. 5 p. http://www.rbc.com/newsroom/pdf/0420-retirement-myths.pdf (accessed October 19, 2011).

Schellenberg, Grant, Martin Turcotte and Bali Ram. 2005."Post-retirement employment." *Perspectives on Labour and Income.* Vol. 6, no. 9. September. Statistics Canada Catalogue no. 75-001-XIE. p. 14-17. http://www.statcan.gc.ca/pub/75-001-x/10905/8622-eng.pdf (accessed October 18, 2011).

Sun Life Financial. 2011. *When Do Canadians Expect to Retire? Canadian Unretirement Index Report.* Section 2. March. p. 4-5. http://cdn.sunlife.com/static/canada/sunlifeCA/Canadian%20Unretirement%20Index%20Report%20-%20March%202011%20-%20English.pd (accessed October 19, 2011).

Université de Montréal. 2010. *Canadian Human Mortality Database.* http://www.bdlc.umontreal.ca/CHMD/index.htm (accessed October 18, 2011).

Wannell, Ted. 2007."Young pensioners." *Perspectives on Labour and Income.* Vol. 8, no. 2. February. Statistics Canada Catalogue no. 75-001-XIE. p. 5-14. http://www.statcan.gc.ca/pub/75-001-x/10207/9583-eng.pdf (accessed October 18, 2011).